Iowa State University Summer Symposium on Science Communication

2012: Between Scientists & Citizens

Jan 1st, 12:00 AM

Scientists, Other Citizens, and the Art of Practical Reasoning

Gitte Meyer
Aalborg University, gitte@gittemeyer.eu

Meyer, Gitte (2012). Scientists, Other Citizens, and the Art of Practical Reasoning. Jean Goodwin (Ed.), *Between Scientists & Citizens*. https://doi.org/10.31274/sciencecommunication-180809-78

Scientists, Other Citizens, and the Art of Practical Reasoning

GITTE MEYER

Department of Learning and Philosophy
Aalborg University
Denmark
gm@learning.aau.dk
gitte@gittemeyer.eu

ABSTRACT: Inspired by the Arendtian distinction between the social and the political, this essay offers a critique of the tendency to frame the relationship between (scientific) expert knowledge and (political) democracy as a social issue or conflict between 'ordinary citizens' and 'scientific experts' as social groups. A tentative analysis explores the role of scientific expertise in democracies viewed as a practical issue in the classical, Aristotelian sense. It is suggested that the notions of *praxis* and practical reasoning as *phronesis* offer a framework that allows citizenship to scientists and might facilitate the integration of scientific knowledge into public deliberation on public affairs, but also would direct attention to the limitations of science.

KEYWORDS: dichotomies, *phronesis*, *praxis*, public deliberation, science communication.

1. INTRODUCTION: AN ANOMALY

The current discourse on the role of science in society is marked by a tendency to frame the relationship between (scientific) expert knowledge and (political) democracy as a social issue, or even as a social conflict between 'ordinary citizens' and 'scientific experts' as social groups. As a probably widely unrecognised and unintended consequence of that framing, scientists appear—in their capacity as scientists—to be excluded from the citizenry and the civic responsibility that citizenship implies. Inspired by the Arendtian distinction between the social and the political, this essay offers a critique of such framing.

Slaves and women were excluded from citizenship in the classical *polis*. In principle, modern democracies grant citizenship to all adults, and the tendency in the science-society discourse to exclude scientists from the citizenry, or to regard them as extraordinary citizens—whatever that might imply—appears as a thought-provoking anomaly. Responsibility, it has been argued, is a key ethical concept of technological civilisations (Jonas, 1984). Seen in that light, the anomaly is also rather worrying.

The following brief and tentative inquiry is primarily intended to direct attention to, and raise questions about, the anomaly. It is suggested that the science-society discourse may have become deadlocked in a framework of thought that combines two tendencies. One is a tendency to think in terms of dichotomies; the other is a tendency to constrain analysis of societal issues to the use of a social perspective, resulting in a focus on status and power relations.

It is furthermore suggested that the classical, Aristotelian notions of *praxis* and practical reasoning as *phronesis* offer a framework that—because it does not take science and politics to constitute a dichotomy, but to be substantially different—allows citizenship to scientists and might support the integration, case by case, of scientific knowledge into public deliberation on public affairs. The framework would, however, also likely bring the issue of

Meyer, G. (2012). Scientists, other citizens, and the art of practical reasoning. In J. Goodwin (Ed.), *Between scientists & citizens: Proceedings of a conference at Iowa State University, June 1-2, 2012* (pp. 297-306). Ames, IA: Great Plains Society for the Study of Argumentation.

the limitations of science to the forefront and should not be perceived as a solution to problems concerning the role of science in society.

2. SCIENTIST OR CITIZEN: A CRITIQUE

Why is the science-society relationship often seen as a *conflict* between seemingly irreconcilable spheres or activities? And why is that supposed conflict often seen as *social* conflict? These two huge, separate, but interrelated questions must be opened up to reflection.

2.1 The Assumption of a Science Versus Politics Dichotomy

Interpretations of the science-society relationship as a fundamental conflict can be seen as outcomes of dichotomic—polarised and polarising—frameworks of and for thought. More specifically, approaches that radically separate and oppose the roles of the scientist and the citizen, respectively, may be viewed as reflections of a widespread assumption of a dichotomy of science versus politics. That assumed dichotomy, in turn, is an instance of an entire range of assumed dichotomies that tend to inform, not least, academic discourse and enquiry: truth versus power; objectivity versus subjectivity; observation versus participation; and the spiritual versus the material are a few examples of such assumed dichotomies. Indeed, the dichotomy appears to be a dominant figure of thought in academic work, originating, it seems, in the notion of universal truth and the corresponding arch-dichotomy of truth versus falsity (Meyer & Lund, 2008b).

An antagonistic force has been ascribed to the monotheistic or secondary religions that brought the truth versus falsity dichotomy into the domain of human beliefs (Assmann, 2010). There are of course important differences between the religious and scientific idea(l)s of universal truth, but there are also some striking similarities and a shared history of interaction, as evidenced, for instance, in the significance of the English civil, confessional wars to the early development of science (Sprat, 1667/1734). Not only monotheistic religions, but also scientific monism may inspire dualism and be disinclined to acknowledge or even consider its own boundaries and/or limitations. Perhaps, one of the most striking similarities is the above antagonistic force, expressed as a capacity to generate dichotomies, and as a general inclination to make dichotomic distinctions.

Dichotomies, however, represent a particular variety of distinctions. They express opposite valuations of things, phenomena or qualities that seem to be taken, as the point of departure, to be substantially similar and to represent the two sides of the same coin. The two sides of an assumed dichotomy are mutually exclusive and interdependent: truth is defined by not being false, objectivity by not being subjectivity, and vice-versa.

The phenomenon of normative inversions (Assmann, 2010) may bring about re-valuations—or, if you prefer, 're-volutions.' A positive valuation of objectivity and a negative valuation of subjectivity may be supplanted by a positive valuation of a re-interpretation of subjectivity and a negative valuation of a re-interpretation of objectivity. A new school, or theory, or '-ism' is founded without affecting the basic assumption of a dichotomy. Thus, a normative inversion that shifts the balance from objectivity to subjectivity, or from subjectivity to objectivity, does not affect the very assumption of an objectivity versus subjectivity dichotomy, and does not raise questions concerning the proper reach and applicability of that dichotomy. Actually, the accumulated effect, over the centuries, of series of normative

inversions could be that the dichotomy acquires the appearance of a general, or even natural, figure of and for thought, rather than a particular one.

If so, dichotomic forms of distinction may be applied indiscriminately to all kinds of differences. Even the capacity for critical judgement—the very ability, that is, to make distinctions—may be ascribed the quality of being negative and in opposition to something as opposed to being positive toward and supportive of it (Marcuse, 1968). What is more, attempts to escape dichotomic deadlocks may take the form of general assaults on the very practice of making distinctions at all (for possible examples of this see for instance Callon, 1986; Latour, 1993).

Our question, now, concerns the assumption of a science versus politics dichotomy. Taking into account a possible origin in a dichotomic framework, it can be linked to several other assumed dichotomies: truth versus power; facts versus emotions; and facts versus values spring to mind. These connect science to truth and facts, and politics to power, emotions and values. In order, however, for the assumption of a fundamental conflict between science and politics to make sense, they must be perceived to be substantially similar and, thus, to be concerned with similar questions. But *are* they substantially similar in that sense, or should they rather be considered to be concerned with different questions? Monistic—and thus potentially dualistic—frameworks of and for thought seem to hamper rather than facilitate reflections along those lines.

2.2 The Interpretation of the Science-society Relationship as a Social Conflict

Our second question concerns the transformation of the assumed fundamental conflict between science and politics into a social conflict between scientific experts and (ordinary) citizens as social categories. Although some of the major themes of the science-society discourse relate to political notions such as ‘citizen’ and ‘democracy,’ a social perspective is widely applied and seems almost to be taken for granted. Where does that perspective take us?

The social perspective represents a view on humans as one of those animal species that live in groups. In order to study humans from that perspective, one has to adopt the position of an outside observer. The position facilitates that social groups or categories may be identified by the criterion of homogeneity. Patterns of resemblances and differences become visible. Status and power relations, and the degree of distance or intimacy within or among groups, come into focus. Furthermore, the objects of study appear to the observer as possible targets of technical intervention aimed at affecting the social relationships or mechanisms of or among groups. The social perspective, thus, can be characterised as an offspring of the classical notion of *techne*, extended and applied to human beings and human affairs.

Techne belongs in the sphere of production. Correspondingly, interpretations of social relationships as those between producers and consumers are widespread. Scientists, for instance, may be seen as producers of scientific knowledge. Knowledge, then, comes to be seen as a good for possession and/or distribution and consumption, and other citizens appear as consumers of knowledge. Interpretations along such lines have belonged to the staples of the science communication discourse for decades (Friedman, Dunwoody & Rogers, 1986). Alternatively, knowledge may be seen as a tool for power holders, and connected to social conflicts between scientists, as holders of knowledge power, and other citizens, as knowledge-have-nots (Felt, 2003; Goede, 2002).

In general terms, the social perspective directs attention to hierarchies and social (in)equalities, to the fair distribution of goods, and to the fair representation of different social groups. It also diverts attention from the substance of issues. Precisely for that reason, it has been argued, references to social distinctions were disapproved of in the coffee houses of the early enlightenment (Sennett, 1986).

When seen from the social perspective, thus, the role of science in public deliberation on public affairs is transformed into an issue of status and power relations. Moreover, the classical understanding of the public or citizenry is marginalised. The *diverse* group of citizens who are bound together merely by co-responsibility for public affairs does not constitute a social group. Strictly speaking, it has no place in social reality.

Another ancient figure of thought is more compatible with the social perspective: the assumed dichotomy of the masses versus the elites.

The notions of the masses and the elites have been significant in modern, Western social thought (see for instance Bottomore, 1964/1971; Carey, 1992; Mills, 1956/2000; Ortega y Gasset, 1930/1993; Veblen, 1899) but are in fact neither particularly modern nor particularly Western. Thus, the idea that members of a society are divided into the masses and the elites has been influential also in pre-modern times (Hill, 1961/2010) and non-Western cultures (Hourani, 2002). The positive valuation of the notion of masses, on the other hand, is probably predominantly a modern idea or, if you prefer, represents a modern normative inversion, connected to what has aptly been termed the invention of the people (Morgan, 1989).

The two notions can be seen as pre-modern exemplars of social categories or groups. Each group is characterised by homogenous features. The elites occupy power positions in the economic, political and intellectual systems; the masses do not. Looking back, for example, to seventeenth-century English discourse, the latter group was freely talked about as "the rabble that cannot read" (Morgan, 1989) or "the unknowing multitude," but positive references to "the people" also gained some momentum (Hill, 1961/2010). In current usage, less immediately demeaning expressions, such as 'the average citizen' or 'ordinary people' are common.

A positive valuation of the masses became manifest during and in the wake of the American War of Independence and has been connected to a wave of fascination with quantitative science:

> People now [early nineteenth century] described society more and more as a 'mass' and for the first time began using this term in reference to 'almost innumerable wills' in a positive, nonpejorative sense. The individual was weak and blind, said George Bancroft in a common reckoning, but the mass of people was strong and wise. From all this followed, too, a new appreciation of statistics: in 1803 the word 'statisticks' first appeared in American dictionaries. (Wood, 1993, p. 360).

Along related lines, the rise of quantitative science has been connected to anti-elitism (Porter, 1995).

The view of society as an entity divided into the masses and the elites has remained a staple of social thought and continues to give rise to conflicting interpretations and valuations. The Dewey-Lippmann controversy of the 1920s can be seen as a model of such conflicts (Dewey, 1927/1991; Lippmann, 1922/1997). But the very notion of the masses—and, thereby, the assumed dichotomy that it forms part of—has also been subjected to critique. It is a contested concept (Collier, Hidalgo & Maciuceanu, 2008).

As a quantitative concept, the notion of the masses simply signifies the many, the majority. As a qualitative term it has been connected to a kind of person—that has come to be, or to be perceived to be common—who is motivated primarily by the immediate prospects of

pain, pleasure and gain, who is caught up in concerns with his or her private affairs, and who is easily manipulated and disinclined to engage in any kind of abstract thinking (Arendt, 1958–59). The rise, on a grand scale, of such assumptions about the general public, perceived as a mass audience, seems expressed in journalistic criteria that stress the importance of dramatisation, emotional appeal and what's-in-it-for-me approaches (Meyer & Lund, 2008a).

A pertinent question to our issue concerns whether and how the discourse on the science-society relationship may have been affected by the assumed dichotomy between the social categories of the masses and the elites. The discourse draws heavily on the notion of the layperson, inherited from the medieval church (Meyer & Sandøe, in press). At the same time, the social categories of the scientific experts and the ordinary citizens can be seen as representatives of an (intellectual) elite and the (lay) masses.

Transformed into a social concept, thus, the notion of the *citizen* seems to have come to signify a *subject* who is excluded from positions of power, and who lacks (scientific) knowledge. This interpretation, in turn, takes us some way toward understanding the puzzling tendency to exclude scientists from (ordinary) citizenship. But there is more to it than that. The predominance in the science-society discourse of the social perspective may be doing away altogether with the classical idea of the citizen. Actually, neither scientists nor other citizens appear to be regarded as citizens in that sense.

Against that background, critical reflection among participants in the science-society discourse might be directed to questions such as: Do terms such as 'average citizens' and 'ordinary people' come with tacit and potentially self-fulfilling assumptions concerning, among other things, the absence of intellectual capacity in the public? If so, how might that affect the general ability of democratic knowledge societies, that are pervaded by scientific enquiries and knowledge claims, to deal with the outcomes of such enquiries and to assess such claims? How might individual scientists and the scientific community as a whole be affected by a discourse that excludes scientists from (ordinary) citizenship? Have we somehow become locked into a framework of thought that has—through its combination of inherent dualism and a tendency to constrain analysis of societal issues to the use of a social perspective—transformed the debate over the role of science in public deliberation on public affairs into a fundamental conflict between scientific experts and (ordinary) citizens perceived as social groups?

3. A WIDER FRAMEWORK: AN EXPLORATION

Using the classical, Aristotelian approach to the public or citizenry as our point of departure might take us in other directions that could lead to other tentative answers to the science-society question—and to other possible problems.

In its modernised version, the classical definition of the citizenry in principle grants citizenship to all adults. It comes with the advantage that it does not exclude scientists from citizenship. It seems, therefore, worthwhile to briefly explore the background of the understanding of the citizenry as a diverse group that is bound together by the co-responsibility for public affairs, and by the capacities for thought and speech that identify human beings as political animals. This idea of the public is much older than modern science. Does it make sense in and to the knowledge societies of today?

3.1 The Classical Notions of Praxis and Practical Reasoning

The Aristotelian understanding of the citizenry belongs in a three-dimensional, non-dichotomic framework of thought that operates with a particularly human dimension of reality —*praxis*— and regards politics as constituting the highest form of that dimension. Life, according to Aristotle, is action (*praxis*), not production (Aristotle, trans. 1992, I.iv). The notion of *praxis*, thus, seems to be the proper starting point for possible re-interpretations.

Praxis differs from the mechanics of nature and the unlimited universe in the same way that human beings differ from other animals and gods. Human life as *praxis* is marked by unpredictability, uncertainty and diversity. It is also characterised by the human capacity to act—and, thus, to deliberate on action—on those conditions (Arendt, 1969). Humankind is composed of a multitude of different humans, and all have different perspectives on human affairs, but as political animals they are able to deal with the uncertainty of those affairs in a specifically human way: exchange between different points of view is the practical-political mode (Crick, 1962/2005).

The political institution of public discussion or deliberation is concerned with proper and rightful action, not with questions relating to universal truth. It is preconditioned by the existence of citizens who are both willing and able to participate critically—and, thus, to pay thorough attention to the substance of issues (Aristotle, trans. 2002, A.III, IV; Hastrup 2002)—in public deliberation on public affairs, as distinct from the private affairs of households and matters of religion. There is, in other words, no compatibility with ideas about laypersons in political life, nor with assumptions of a dichotomic relationship between participation and deliberation (Mutz, 2006), nor with other assumed dichotomies relating to human affairs.

The view of human life as *praxis* is accompanied by a concept of practical reason or *phronesis* (Arendt, 1969; Gadamer, 2001; MacIntyre, 1984; Schnädelbach, 2007). It differs from technical rationality and from the contemplation of universal truth in much the same way that humans differ from other animals and from gods, and that life as *praxis* differs from the unlimited and the mechanical dimensions of reality. *Phronesis* is a worldly, temporal and personal kind of reason. Aimed at proper and rightful action, and suited to the conditions of limitations, diversity and uncertainty, it has purposes, but no objects or aims of control. Practical reasoners make assessments case by case—including, at the same time, factual and normative aspects of individual cases—while drawing on personal experience and taking other points of view into account.

The political institution of public discussion, with its inherent pluralism, makes sense only in regard to those assumptions that connect the human condition with limitations *and* with the human capacities of thought and speech. It is an institution for enquiry into practical, political problems that can neither be answered by religion nor be solved by technical means, but which may include elements that relate to specialised knowledge (Aristotle, trans. 2002, A. II). There is uncertainty and diversity. Reasonable argumentation and critical assessments are possible; proof is not. It is, therefore, necessary to include multiple points of view in discussions and to avoid allowing anyone a monopoly on reason with respect to practical issues. Such multiple viewpoints must be dealt with through discussion among citizens who are co-responsible for public affairs and represent different perspectives on issues.

The classical understanding of politics, thus, marks it out as substantially different from modern science, circling the concept of universal truth and operating along the lines of technical rationality. At the same time, however, the practice of *doing* science appears as an

instance of *praxis*; it is a human endeavour, subject to the practical conditions of uncertainty, unpredictability and human diversity.

Of immediate relevance to the current science-society discourse is the assumption that uncertainty is fundamental to the human condition. During recent decades, uncertainty has been seen to be re-discovered. Scientific uncertainty has become a key term in the science-society discourse, and attempts have been made to understand this disturbing aspect of modern or post-modern science (among numerous possible examples, see for instance Beck, 1992; Friedman, Dunwoody, & Rogers, 1999). If viewed, however, from a classical, practical perspective, the specificity of the notion of *scientific* uncertainty is unhelpful, and attempts to solve the problem by technical-scientific means are counterproductive.

As the use of scientific methods and approaches has expanded into ever more walks of life, scientific enquiry has come to be increasingly concerned with human affairs and practical, political issues. No wonder, then, that the condition of uncertainty increasingly makes itself felt. It is a general feature of *praxis* and an expression of those limitations that form part of the human condition. It is not a technical problem that can be solved, but an indication of basic conditions that should be recognised.

From this perspective, the expansion of science also increases the need to consider its limitations, not least when scientific experts participate in public exchanges as citizens with specialised knowledge. There is a place for scientific rationality within the wider framework of practical knowledge pluralism and critical, practical reasoning. Scientific knowledge may be integrated (Gadamer, 2001) into public deliberation on public affairs. But the place comes, as places do, with boundaries. They do not follow the lines of a dichotomy of facts versus values and cannot be defined once and for all, but need continuous attention. That challenge, however, connected as it is to a distinction between technical and practical issues which is no longer in vogue, might be perceived by many as alien and perhaps even as hostile to science.

3.2 Practical Reason and Scientific Rationality: Conflict and Complementarity

With their revised translations of classical texts and with their often keen interest in societal debate, Renaissance humanists gave the Aristotelian approach to ethics, politics and rhetoric a new lease of life (Kristeller, 1961). Against that background, the rise of modern science has been described as a Counter-Renaissance (Toulmin, 1990), and it has been noted that the distinction between *praxis* and production already was rejected by Hobbes in the early seventeenth century (Höffe, 2010). Indeed, both to the early and the later development of modern science, many are likely to have regarded the notion of a particularly human sphere of action as *praxis*, with its pluralism and its emphasis on the limitations of human endeavours, as an inappropriate frame that stood in the way of the (unlimited) progress of mankind.

Evolving in a climate of confessional warfare—related at the same time to politics and religion (Schorn-Schütte, 2010; Worden, 2009) —some of the founding features of modern science can be seen as aiming to escape the dangerous sphere of conflicting confessions (Sprat, 1667/1734). Somewhat paradoxically, however, the development of ideas of science may still have been informed by the very mental climate they were actually intended to counteract. To some extent, confessional features, connected to the notion of universal truth, may have been mimed and carried on, including such tendencies as to think in stark terms of pro- versus anti-science attitudes and to generate science wars.

More subtle approaches may be inspired by the history of the various enlightenment movements that contributed to the continuous development of ideas about science and modern democracy during the seventeenth and eighteenth centuries. Recent decades have witnessed considerable numbers of accounts of those movements. Together these accounts portray the enlightenment as a tradition of multiple strains, and of tensions (see for instance Bahr, 2002; Jacob, 2006; Porter, 2001). Some of those tensions are encapsulated in the enlightenment motto: *sapere aude* which can be translated into *dare to know* (Kramnick, 1995) and into *have courage to use your own reason* (Kant, 1784/1995).

Equally valid, the two translations can be seen as representing a conflict between phronetic reasoning and the authority of scientific rationality, and, at the same time, as indicating a complementary relationship between those two varieties of reason. Along that line, the indiscriminate use of, and appeal to, scientific expertise would be considered a fallacy, as would the indiscriminate rejection of such uses and appeals. One task of practical reasoning would be to facilitate critical reflection and discussion case by case of whether or not, or to what extent, scientific approaches should be deemed appropriate to the issue in question. One should dare to know, and to use one's own reason. The very relationship between scientific rationality and practical reasoning can be seen as constituted by conflict and complementarity and, thus, by a combined capacity to keep each other in check.

4. CONCLUSION: COPING WITH THE EXPANSION OF SCIENCE

It is the tentative conclusion of this brief exploration that a re-introduction of the classical notions of *praxis* and *phronesis* into the science-society discourse not only offers a framework that allows ordinary citizenship to scientists and includes them in the co-responsibility for public affairs that citizenship implies. The framework also comes with the demand that the limitations of science be considered case by case as part of a continuous public discussion in the shape of practical reasoning among citizens that represent multiple points of view. Therefore, the framework possibly could be perceived as an affront to science, but it can also be seen as offering a possibility for scientists to combine the role of scientist with that of the co-responsible citizen. And it can be seen as a possibility for modern knowledge democracies to cope with the expansion of science in a reasonable way, steering clear of the pitfalls of populism and technocracy.

ACKNOWLEDGEMENTS: This work has been made possible by a grant from The Danish Council for Independent Research | Humanities.

REFERENCES

Arendt, H. (1958–59). Kultur und Politik. Merkur: Deutsche Zeitschrift für Europäisches Denkens, 12, 1122–1145.

Arendt, H. (1969). *The human condition*. Chicago, IL & London: The University of Chicago Press.

Aristotle. (2002). *Retorik*. (Hastrup, T., Trans.) Copenhagen: Museum Tusculanums Forlag.

Aristotle. (1992). . *The Politics*. (Sinclair, T.A., Trans., Saunders, T.J., Ed.). London: Penguin Books.

Assmann, J. (2010). *The price of monotheism*. Stanford, CA: Stanford University Press.

Bahr, E. (Ed.). (2002). *Was ist aufklärung? Thesen und definitionen*. Stuttgart: Reclam.

Beck, U. (1992). *The risk society: Towards a new modernity*. London: Sage.

Bottomore, T. B. (1971). *Elites and society*. Harmondsworth, Baltimore & Ringwood: Pelican Books. (Original work published 1964).
Callon, M. (1986). Some elements of a sociology of translation. In J. Law (Ed.), *Power, action and belief: A new sociology of knowledge?* (pp. 196–223). London: Routledge.
Carey, J. (1992). T*he intellectuals and the masses: Pride and prejudice among the literary intelligentsia 1880–1939*. London: Faber and Faber.
Collier, D., Hidalgo, F. D., & Maciuceanu, A. O. (2008). Essentially contested concepts: Debates and applications. *Journal of Political Ideologies, 11*, 211–246.
Crick, B. (2005). *In defence of politics*. London & New York: Continuum. (Original work published 1962).
Dewey, J. (1991). *The public and its problems*. Athens, OH: Swallow Press & Ohio University Press. Original work published 1927).
Felt, U. (Ed.). (2003). *O.P.U.S. Optimising public understanding of science and technology: Final report*. Retrieved from http://www.univie.ac.at/virusss/opus/mpapers.html
Friedman, S. M., Dunwoody, S., & Rogers, C. L. (Eds.). (1986). *Scientists and journalists: Reporting science as news*. New York & London: The Free Press.
Friedman, S. M., Dunwoody, S., & Rogers, C. L. (Eds.). (1999). *Communicating uncertainty: Media coverage of new and controversial science*. Mahwah, NJ & London: Lawrence Erlbaum Associates.
Gadamer, H-G. (2001). *Truth and method*. London: Sheed & Ward.
Goede, W. (2002, November). *Civil journalism & scientific citizenship*. The keynote address to the *Third World Conference of Science Journalists*. Retrieved from http://www.forum-community-organizing.de/goede_journalism.htm
Hastrup, Thure (2002). Introduktion. In *Retorik.* Translated by Thure Hastrup. Copenhagen: Museum Tusculanums Forlag.
Hill, C. (2010). *The century of revolution: 1603–1714*. London & New York: Routledge. (Original work published 1961).
Hourani, A. (2002). *A history of the Arab peoples*. London: Faber and Faber.
Höffe, O. (2010). *Thomas Hobbes*. München: Verlag C.H. Beck.
Jacob, M. C. (2006). *The radical Enlightenment: Pantheists, Freemasons and republicans*. Lafayette, LA: Cornerstone.
Jonas, H. (1984). *Das prinzip verantwortung: Versuch einer ethik für die technologische zivilisation*. Frankfurt am Main: Suhrkamp.
Kant, I. (1995). What is Enlightenment? In Kramnick (Ed.), *The Portable Enlightenment Reader* (pp. 1–7). New York, NY: Penguin Books. (Original work published 1784).
Kramnick, I. (Ed.). (1995). *The Portable Enlightenment Reader*. New York, NY: Penguin Books.
Kristeller, P. O. (1961). *Renaissance thought: The classic, scholastic and humanist strains*. New York, NY, Evanston, & London: Harper Torchbooks.
Latour, B. (1993). *We have never been modern*. Cambridge, MA: Harvard University Press.
Lippmann, W. (1997). *Public opinion*. New York, NY: Simon & Schuster. (Original work published 1922).
MacIntyre, A. (1984). *After virtue: A study in moral theory*. Notre Dame, IN: University of Notre Dame Press.
Marcuse, H. (1968). *One-dimensional man*. Boston, MA: Beacon Press.
Meyer, G., & Lund, A. B. (2008a). International language monism and homogenisation of journalism. *Javnost: The Public, 15*(4), 73–86.
Meyer, G., & Lund, A. B. (2008b). Spiral of cynicism: Are media researchers mere observers*? Ethical Space: The International Journal of Communication Ethics, 5*(3), 33–42.
Meyer, G., & Sandøe, P. (in press). Going public: Good scientific conduct. *Science and Engineering Ethics*. doi:10.1007/s11948-010-9247-x
Mills, C. W. (2000). *The power elite*. New York, NY: Oxford University Press. (Original work published 1956).
Morgan, E. S. (1989). *Inventing the people: The rise of popular sovereignty in England and America*. New York, NY, & London: W.W. Norton & Company.
Mutz, D. C. (2006). *Hearing the other side: Deliberative versus participatory democracy*. New York, NY: Cambridge University Press.
Ortega y Gasset, J. (1993). *The revolt of the masses*. New York, NY: Norton. (Original work published 1930).
Porter, T. M. (1995). *Trust in numbers: The pursuit of objectivity in science and public life*. Princeton, NJ: Princeton University Press.
Porter, R. (2001). *Enlightenment: Britain and the creation of the modern world*. London: Penguin Books.
Schnädelbach, Herbert (2007). Vernunft. Stuttgart: Reclam.

Schorn-Schütte, L. (2010). *Konfessionskrige und europäische expansion: Europa 1500–1648*. München: Verlag C.H. Beck.
Sennett, R. (1986). *The fall of public man*. London: Faber and Faber.
Sprat, T. (1734). *The history of the Royal Society of London, for the improving of natural knowledge* (4th ed.). London. (Original work published 1667).
Toulmin, S. (1990). *Cosmopolis: The hidden agenda of modernity*. New York, NY: The Free Press.
Veblen, T. (1899). *The theory of the leisure class*. Retrieved from http://xroads.virginia.edu/~HYPER/VEBLEN/veblenhp.html
Wood, G. S. (1993). *The radicalism of the American Revolution*. New York, NY: Vintage Books.
Worden, B. (2009). *The English civil wars: 1640–1660*. London: Weidenfeld & Nicolson.